

DETAIL NO.  
**2402**

**City of Scottsdale**  
**Standard Details**

# FORCE MAIN DISCHARGE MANHOLE

DETAIL NO.  
**2402**



SEWAGE AIR RELEASE VALVE (APCO MODEL 400, 17 1/2" VALVE HEIGHT, OR APPROVED EQUAL) SUPPORT AIR RELEASE VALVE AS NEEDED

30" MANHOLE RING AND COVER WITH ADJUSTING RINGS. CENTER OVER OPENING. (SCOTTSDALE SEWER)

2" UNLESS LOCATED IN ROADWAY

FINISHED GRADE

PRE-CAST CONCRETE VAULT 4' MIN. WIDTH, 2' CLEAR ON BOTH SIDES OF PIPE.

ADEKA SEAL OR APPROVED EQUAL AROUND ENTIRE PIPE

CONCRETE WALL

WALL PIPE

CEMENT GROUT

### SEAL DETAIL

NOTE: TO BE USED FOR ALL PIPES PASSING THROUGH WALLS.

PROVIDE KNOCK OUTS AROUND FORCE MAIN

2' LONG BACK FLUSHING HOSE WITH QUICK COUPLER ATTACHED AT FREE END.

RISER PIPES SAME DIA. AS FORCE MAIN

MJ PLUG OR CAPS  
PLUG VALVE TYPICAL THROUGHOUT

FLANGED WYE LAT. W/45°  
PROVIDE KNOCK OUTS AROUND FORCE MAIN

12" MIN.

12" MIN.

4" MIN.

4" MIN.

5' MIN.

5' MIN.

6" MIN.

6" MIN.

PIPE SUPPORT

CRUSHED STONE

RESTRAINED SOLID SLEEVE, TYPICAL

FOOTER PER MANUFACTURER'S RECOMMENDATIONS

\* NOTE: ALL PIPING IN CLEAN-OUT CHAMBER, EXCEPT AS NOTED, TO BE DUCTILE IRON CONNECTED WITH FLANGED JOINTS AND STAINLESS STEEL BOLTS.

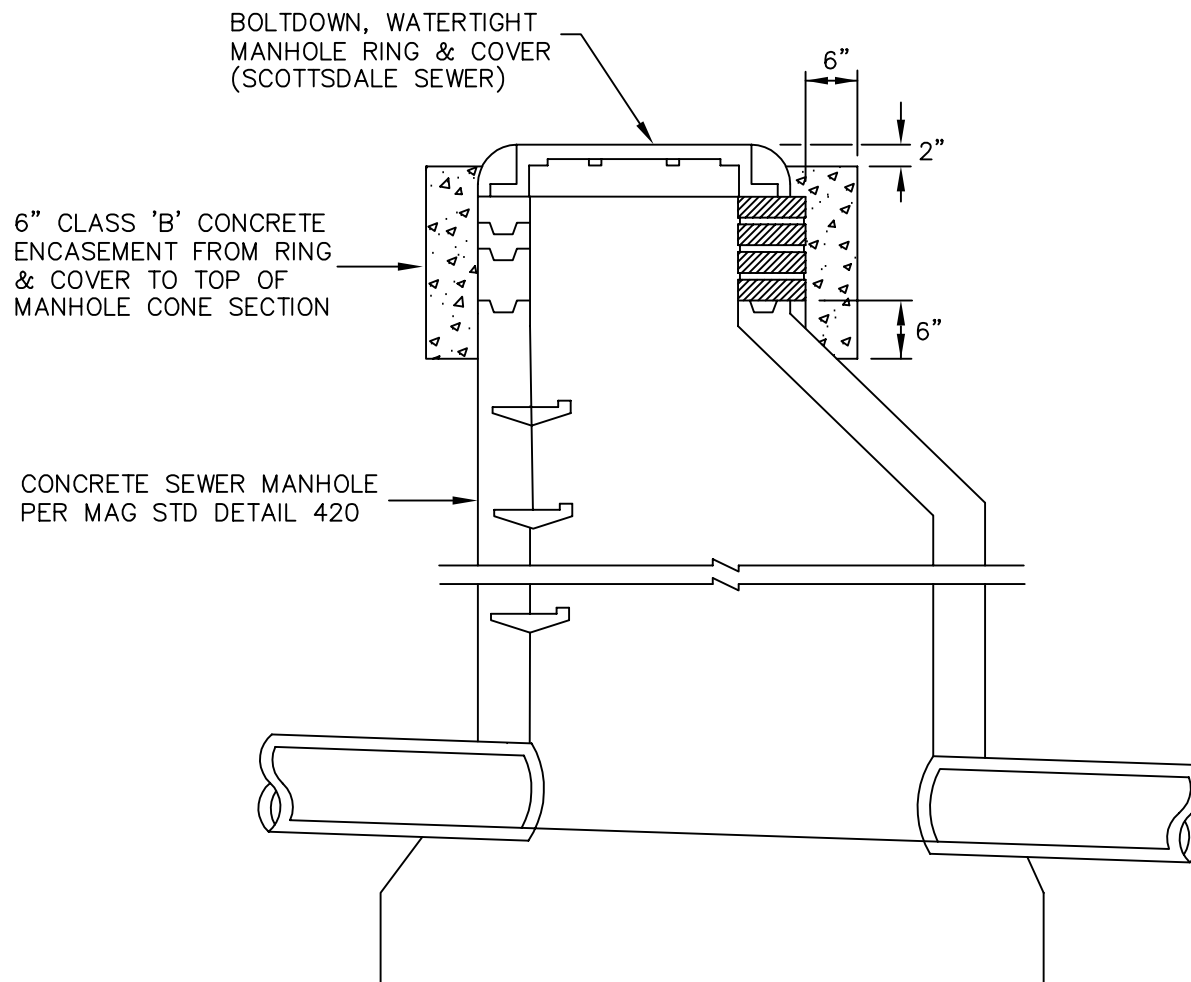
DETAIL NO.  
**2404**

**City of Scottsdale**  
**Standard Details**

## FORCE MAIN CLEAN-OUT W/ SEWAGE AIR RELEASE VALVE

DETAIL NO.  
**2404**



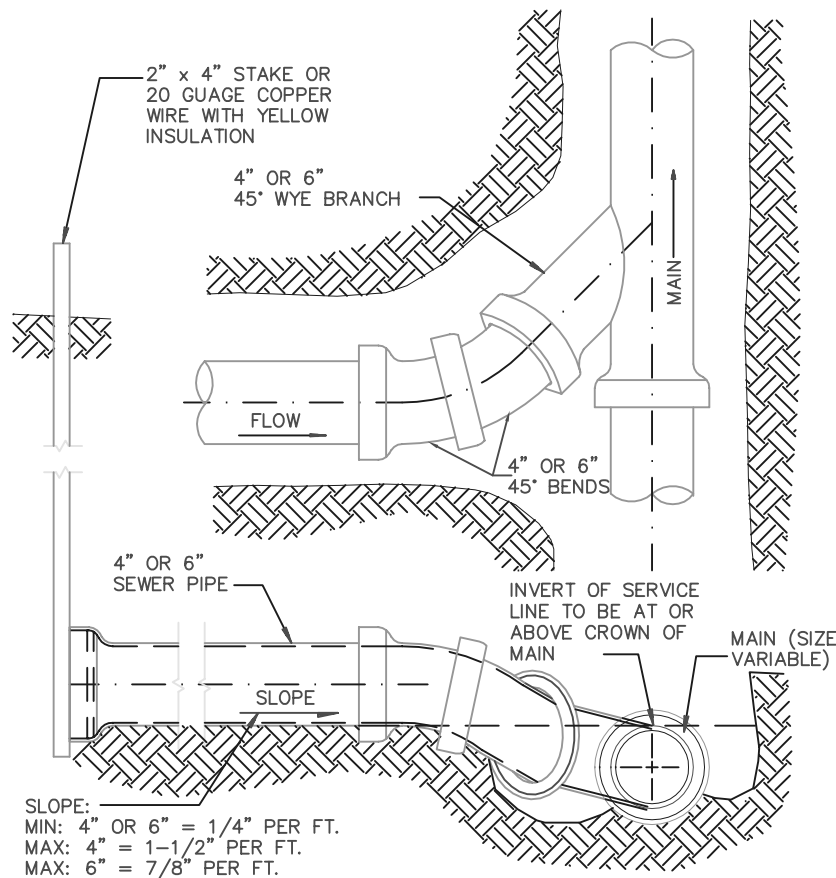


DETAIL NO.  
**2420**

**City of Scottsdale**  
**Standard Details**

# **WATER TIGHT CONCRETE SEWER MANHOLE**

DETAIL NO.  
**2420**



1. CONSTRUCTION DETAIL APPLIES WHERE CONTRACTOR BUILDS HOUSE CONNECTION. TAP EXTENDS TO PROPERTY LINE IN ALLEYS OR STREETS OR TO EASEMENT LINE.
2. SIZE OF TAP SHALL BE DESIGNATED ON PLANS.
3. CONSTRUCT TAP AT MINIMUM SLOPE IF COVER WILL BE LESS THAN 5' AT PROPERTY LINE.
4. IF DEPTH REQUIRES, MINIMUM SLOPE CAN BE REDUCED TO 1/8" PER FOOT PROVIDED STUB IS STAKED TO GRADE.

5. ALL FITTINGS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D-2321. THE CONTRACTOR MAY VARY FROM THE DRAWING TO USE THE APPROPRIATE WYES, TEE-WYES AND BENDS TO ENSURE NO MISALIGNMENT OF THE PIPE AND FITTINGS. BLOCK OR BRACE FITTING JOINTS TO ENSURE ZERO DEGREES ANGULAR JOINT DEFLECTION.

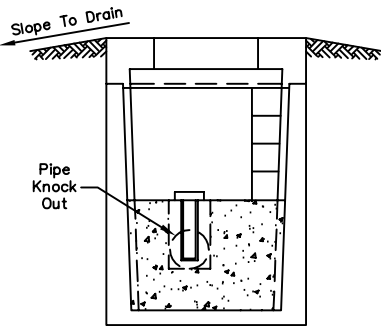
6. END OF TAP TO BE SEALED AND MARKED AS NOTED.

DETAIL NO.  
**2440**

**City of Scottsdale**  
**Standard Details**

# SEWER BUILDING CONNECTION

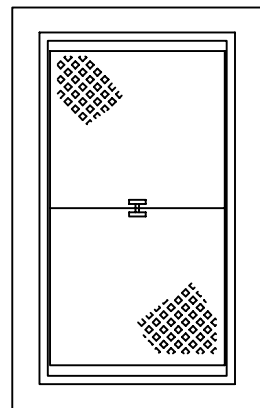
DETAIL NO.  
**2440**



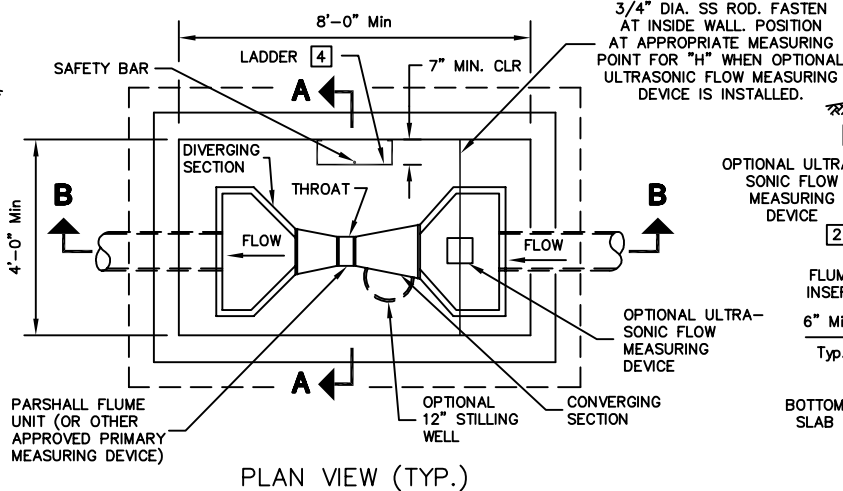
SECTION A-A

PRE-CAST VAULT

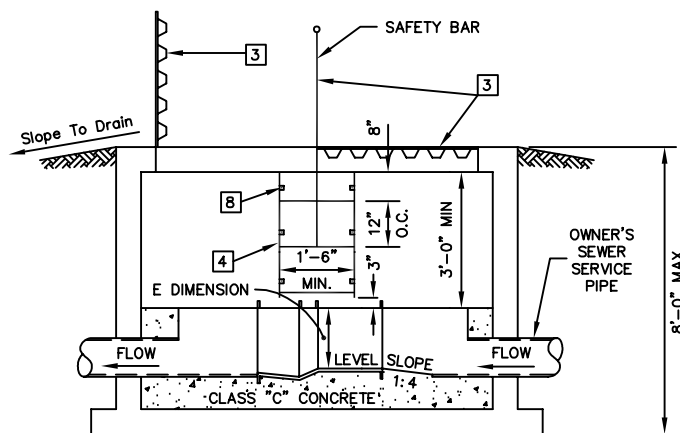
UTILITY VAULT CO.  
VAULT NO. 575-BL,  
NO. 577-BL OR  
APPROVED EQUAL



COVER WITH LID



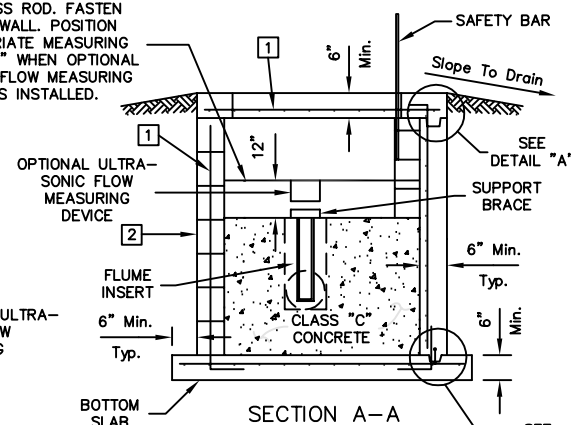
PLAN VIEW (TYP.)



SECTION B-B

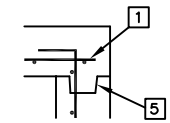
EQUIPMENT DESCRIPTION

A Fisher and Porter type 10F1940, Hinde Engineering Company, PS-1001, or approved equal molded fiberglass reinforced polyester Parshall Flume shall be installed. The flume shall be molded in one piece with ample wall thickness and reinforcing ribs to prevent distortion during shipment, installation and operation. The flume shall be self-supporting and require no external supporting structure. Interior dimensions shall conform to those in the latest revision of Water Measurement Manual published by the U.S. Department of the Interior, Water and Power Resources Services. The throat width and flume height (\*E dimension) shall be per plan.

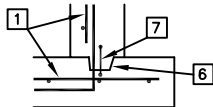


SECTION A-A

CAST-IN-PLACE VAULT



TOP KEY  
DETAIL "A"



BOTTOM KEY  
DETAIL "B"

NOTES:

- 1 Reinforced steel and clearance as approved by the engineer.
- 2 Block masonry may be used in lieu of CIP walls. 8" block masonry, grout each cell to full height (grout per MAG Section 776).
- 3 2 Torsion spring assisted galvanized diamond plate access doors (design loading AASHTO-H20) locking with type 304SS hardware and safety bar (Bilco Model LU-3, or approved equal).
- 4 Ladder shall be furnished and installed in accordance with the detail and shall meet the requirements of OSHA for Type IA (300 lbs) fixed ladders, single section. Details of ladder construction, along with a certification that the ladder meets or exceeds OSHA requirements for Type IA (300 lbs) service shall be submitted for review prior to furnishing and installing. Mill finished aluminum ladder or approved corrosion resistant material.
- 5 2"x 4" key, center on wall. (Install rope caulk continuously).
- 6 1-5/8"x 2-1/2"x 3" key.
- 7 4" PVC dumbbell type continuous waterstop 3/8" min. thickness. (Wash thoroughly prior to installation).
- 8 Anchor straps (3 each side) with 5/8" x 3-1/2" 316SS anchor bolts with lock washer and nut.

GENERAL NOTES

1. All construction shall conform to MAG Specifications and Details and City of Scottsdale Supplement to MAG Specifications and Details, unless modified on the plans.
2. All concrete floors, walls and top slab of the structure shall conform to MAG section 725, Class A, minimum compressive strength at 28 days = 3,000 psi.
3. All concrete for the grout fillet inside the structure shall conform to MAG Section 725, Class C, minimum compressive strength at 28 days = 2,000 psi.
4. All steel reinforcing shall be deformed bars, Grade 60, billet steel conforming to ASTM Specification No. A-615, latest edition.
5. The Monitoring/Sampling Vault shall be installed on the owner's property as close to the customer tap to the City sewer as feasible, and approved by the City of Scottsdale.
6. Flume size should be based upon the minimum and maximum flow rates and velocities to insure free-flow conditions.  
-Maximum Flow = 70%-100% of maximum capacity of selected flume size.  
-0.5 inches of flow should exist at the minimum actual flow.
7. Flume floor elevation should be high enough, relative to downstream conditions, to prevent submerged flow (50% submergence is acceptable at maximum flow), install the flume level (longitudinally and transversely) in the converging section.
8. Upstream flow should be wave free, non-turbulent, and symmetrical having a uniform velocity (1fps minimum to 3 fps maximum) at least 10 times the diameter of the upstream sewer pipe in length in the approach channel. Bends upstream in the flume will NOT be allowed for a distance of 25 pipe diameters unless conditions in the approach section of the flume will not be adversely affected.
9. The flume shall be installed off-center and away from the ladder to allow the maximum working space for City personnel.
10. It shall be the owner's responsibility to properly maintain the flume in accordance with the manufacturers recommendations to ensure the accuracy of the measurement.

DETAIL NO.  
2460

City of Scottsdale  
Standard Details

APPROVED BY:

MONITORING/SAMPLING VAULT

DETAIL NO.  
2460